Cotton/Soybean Insect Newsletter

Volume 12, Issue #12 Edisto Research and Education Center in Blackville, SC 20 July 2017

Pest Patrol Alerts

The information contained herein each week is available via text alerts that direct users to online recordings. I will update the short message weekly for at least as long as the newsletter runs. After a new message is posted, a text message is sent to alert users that I have recorded a new update. Users can subscribe for text message alerts for my updates in two easy steps. Step one: register by texting **pestpat7** to 97063. Step two: reply to the confirmation text you receive by texting the letter "y" to complete your registration. Pest Patrol Alerts are sponsored by Syngenta.

Updates on Twitter

When noteworthy events happen the in the field, I will be sending them out quickly via Twitter. If you want to follow those quick updates, follow me at @bugdocisin on Twitter.

Training Opportunity

Our in-field scouting school on Wednesday was a great training session in the Cameron and St. Matthews area. I big thanks goes out to Jonathan Croft and Charles Davis for organizing the training for consultants, scouts, and producers. Additional training opportunities might be available soon. Stay tuned.

News from Around the State

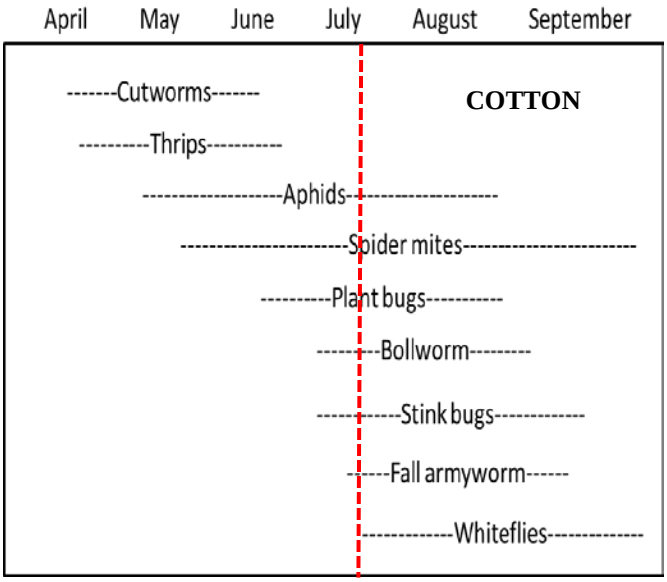
Jay Crouch, county agent covering Newberry and Saluda Counties, indicated that "reports of kudzu bugs are increasing, [with the] first report of nymphs yesterday. At our in-field training session yesterday near Cameron, SC, we saw bollworms and injury to blooms and squares in Bollgard 2 cotton, and we were not looking that hard for them. Reports out of the Mid-South are also coming in about more bollworms than normal in Bollgard 2 cotton, so all two-gene cotton is likely susceptible now. Get out and scout! Our moth trap numbers are increasing, and there are plenty of moths flying around in blooming cotton and soybeans. Stink bugs are easy to find in cotton also, so follow the dynamic boll-injury thresholds for stink bugs by week of bloom!

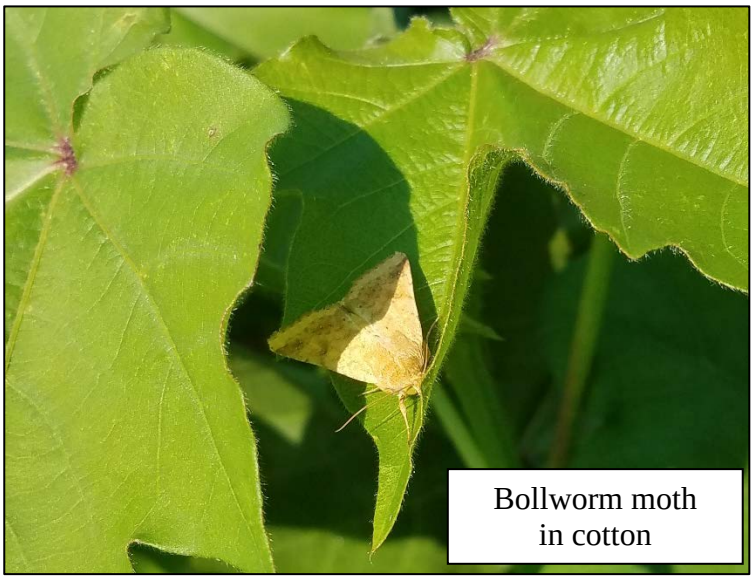
Cotton Situation

As of 16 July 2017, the USDA NASS South Carolina Statistical Office estimated that about 69% of the crop is squaring, compared with 57% the previous week, 73% at this time last year, and 72% for the 5-year average. About 33% of the crop is setting bolls, compared with 17% the previous week, 22% at this time last year, and 26% for the 5-year average. The condition of the crop was described as 56% excellent, 36% good, 8% fair, 0% poor, and 0% very poor. These are observed/perceived state-wide averages.

Cotton Insects

Most of our cotton is blooming now and setting bolls, but some is just now beginning to bloom. ***Do you know what week was the first week of bloom in every field you are checking? You should! Record the 1st week of bloom for each field!*** We define the first week of bloom when every other plant has an initial white bloom. After that, the calendar will tell you what week of bloom you are in, right? Right! This is important because we know what weeks of bloom are most susceptible to stink bugs and bollworm. If you don't know what week of bloom each field is in, you cannot properly manage those insect pests. Captures of moths continue to increase in our pheromone traps, as has bollworm activity in the field. I am flushing moths as I walk through cotton, so it is time to scout for eggs,

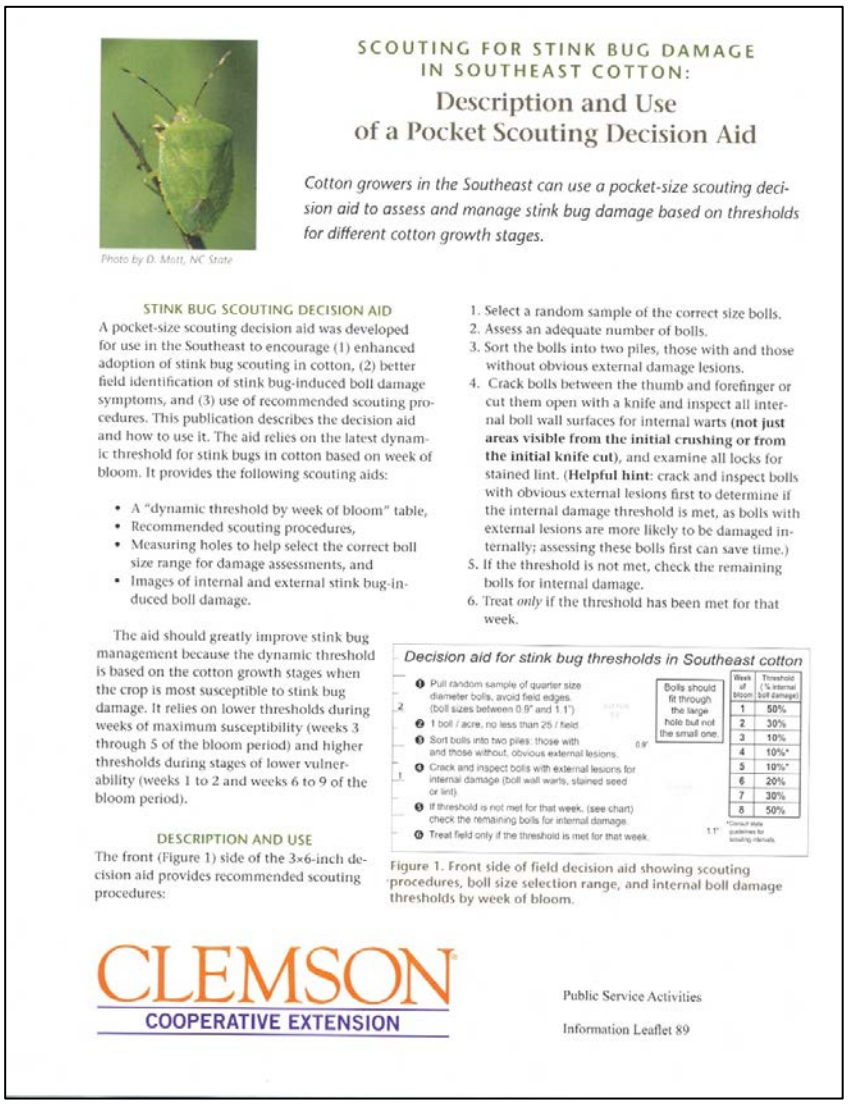




Bollworm moth in cotton

Yellowstriped armyworm eating non-Bt cotton leaf

developing larvae that escape death by in-plant proteins (i.e. Bt cotton), and damaged plant structures. ANY week of bloom is susceptible to injury from bollworm, but the initial weeks are critical, as the first application of insecticide sets the tone managing for bollworm for the remainder of the "insect season" in each field. It will take about 5 to 6 weeks of blooming to get through most of the bollworm window of susceptibility. We know that the 3rd through 5th week of bloom is a 3-week stretch where cotton is particularly susceptible to injury and yield loss from stink bugs. Images of the threshold field cards (above) and the publication describing the technique in detail (below) are in this week's newsletter again, as it is good to look at these occasionally to ensure we are following the boll-injury procedure correctly.



SCOUTING FOR STINK BUG DAMAGE IN SOUTHEAST COTTON:

Description and Use of a Pocket Scouting Decision Aid

Cotton growers in the Southeast can use a pocket-size scouting decision aid to assess and manage stink bug damage based on thresholds for different cotton growth stages.

Photo by D. Mott, NC State

STINK BUG SCOUTING DECISION AID

A pocket-size scouting decision aid was developed for use in the Southeast to encourage (1) enhanced adoption of stink bug scouting in cotton, (2) better field identification of stink bug-induced boll damage symptoms, and (3) use of recommended scouting procedures. This publication describes the decision aid and how to use it. The aid relies on the latest dynamic threshold for stink bugs in cotton based on week of bloom. It provides the following scouting aids:

- A "dynamic threshold by week of bloom" table,
- Recommended scouting procedures,
- Measuring holes to help select the correct boll size range for damage assessments, and
- Images of internal and external stink bug-induced boll damage.

The aid should greatly improve stink bug management because the dynamic threshold is based on the cotton growth stages when the crop is most susceptible to stink bug damage. It relies on lower thresholds during weeks of maximum susceptibility (weeks 3 through 5 of the bloom period) and higher thresholds during stages of lower vulnerability (weeks 1 to 2 and weeks 6 to 9 of the bloom period).

DESCRIPTION AND USE

The front (Figure 1) side of the 3×6-inch decision aid provides recommended scouting procedures:

1. Select a random sample of the correct size bolls.
2. Assess an adequate number of bolls.
3. Sort the bolls into two piles, those with and those without obvious external damage lesions.
4. Crack bolls between the thumb and forefinger or cut them open with a knife and inspect all internal boll wall surfaces for internal warts **(not just areas visible from the initial crushing or from the initial knife cut)**, and examine all locks for stained lint. (**Helpful hint**: crack and inspect bolls with obvious external lesions first to determine if the internal damage threshold is met, as bolls with external lesions are more likely to be damaged internally; assessing these bolls first can save time.)
5. If the threshold is not met, check the remaining bolls for internal damage.
6. Treat *only* if the threshold has been met for that week.

Decision aid for stink bug thresholds in Southeast cotton

1. Pull random sample of quarter size diameter bolls, avoid field edges. (boll sizes between 0.9" and 1.1")
2. 1 boll / acre, no less than 25 / field
3. Sort bolls into two piles: those with and those without, obvious external lesions.
4. Crack and inspect bolls with external lesions for internal damage (boll wall warts, stained seed or lint).
5. If threshold is not met for that week, (see chart) check the remaining bolls for internal damage.
6. Treat field only if the threshold is met for that week.

Bolls should fit through the large hole but not the small one.

Week of bloom	Threshold (% internal boll damage)
1	50%
2	30%
3	10%
4	10%*
5	10%*
6	20%
7	30%
8	50%

Figure 1. Front side of field decision aid showing scouting procedures, boll size selection range, and internal boll damage thresholds by week of bloom.

CLEMSON COOPERATIVE EXTENSION

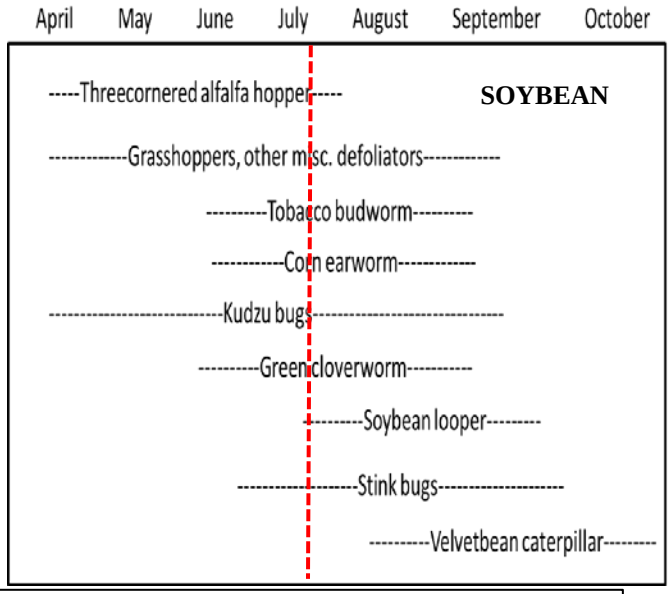
Public Service Activities

Information Leaflet 89

As I have mentioned for the last two weeks, we have had some recent data that indicate that the pyrethroid insecticides might not be providing the level of control of bollworm that we have observed in the past. That being stated, we are not yet ready to change our recommendations. We are still recommending pyrethroids for control of stink bugs and any escaped bollworms, as that class of chemistry provides excellent control of stink bugs and should still be active on bollworm to some level. Tank mixes of a pyrethroid plus a caterpillar material, such as Prevathon, Steward, Blackhawk, Intrepid Edge, or a pre-mixed product with a pyrethroid and lep material, such as Besiege, will likely become the standard in the near future. Stay tuned, and we will provide information from bioassay trials addressing pyrethroid efficacy on bollworm.

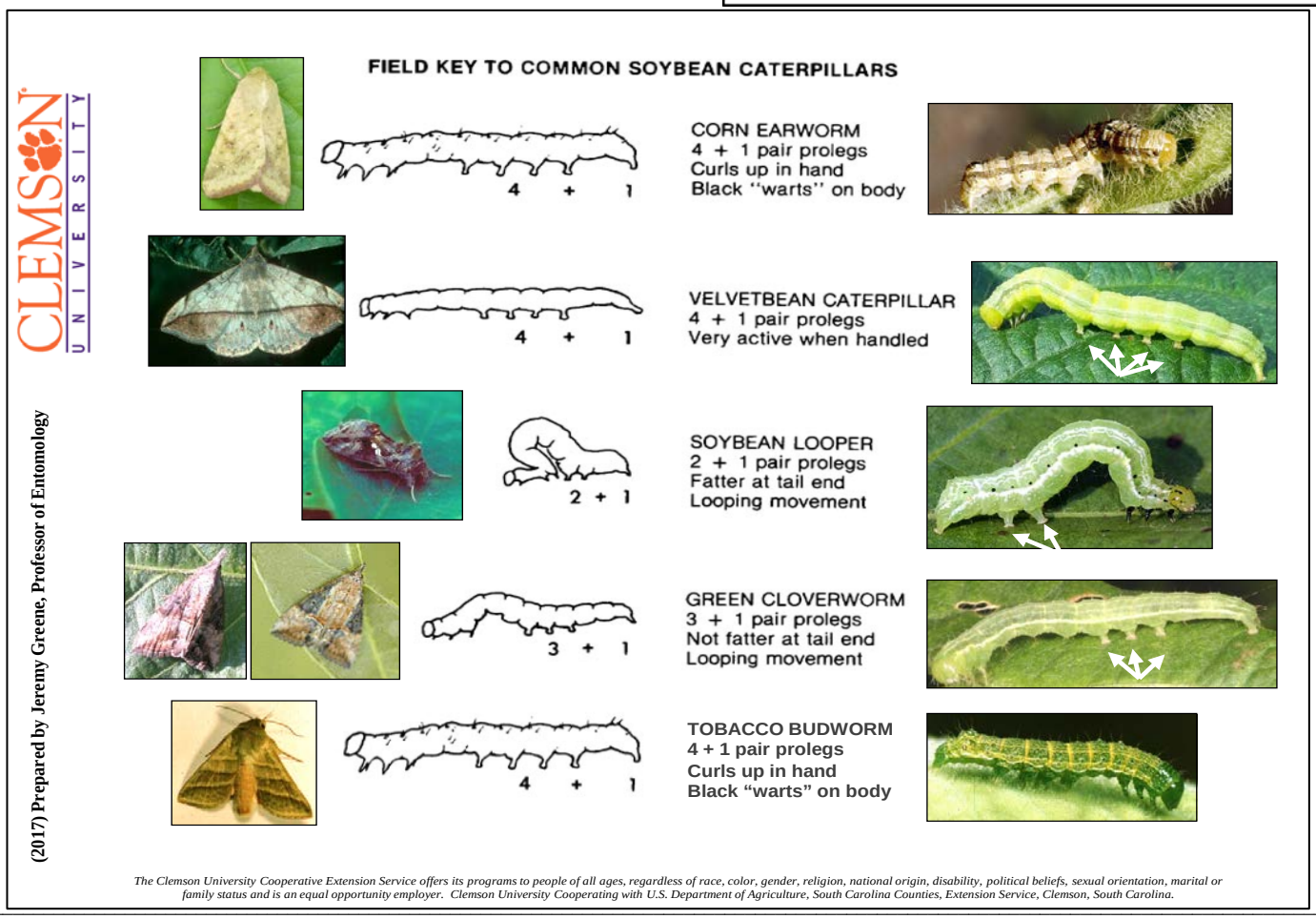
Soybean Situation

As of 16 July 2017, the USDA NASS South Carolina Statistical Office estimated that about 96% of the crop has emerged, compared with 93% the previous week, 99% at this time last year, and 94% for the 5-year average. About 28% of the crop is blooming, compared with 16% the previous week, 22% at this time last year, and 18% for the 5-year average. The condition of the crop was described as 29% excellent, 57% good, 14% fair, 0% poor, and 0% very poor. These are observed/perceived state-wide averages.



Soybean Insects

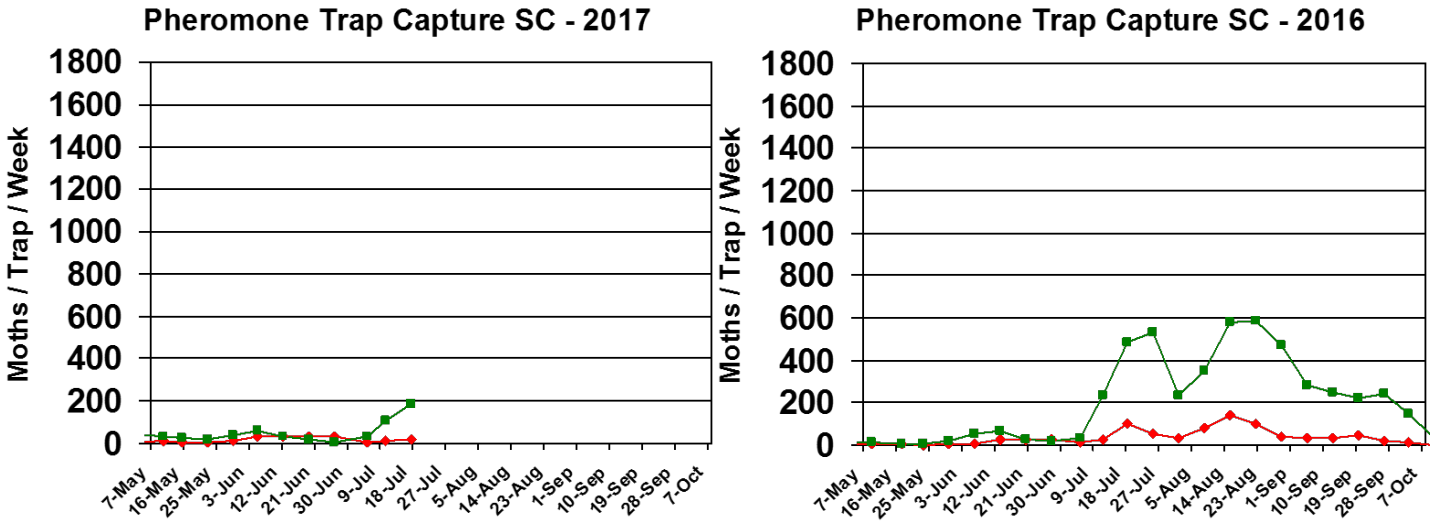
Continue to check for the stem-feeding kudzu bug and treat only when nymphs are easily observed on most



observations down in the canopy or when numbers reach 1 nymph per sweep. Pyrethroid insecticides do a great job in controlling kudzu bugs. Also, continue to pay attention to the moths taking short flights from row to row while you are walking fields. Wide-row soybeans that are blooming or setting pods are very susceptible to podworm (same species as corn earworm, bollworm, etc, as the species, *Helicoverpa zea*, has many common names for broad host range) right now. Here is a guide to identifying those moths depositing eggs that turn into the pest caterpillars also shown. Check out the 2017 Pest Management Handbook for recommendations regarding control in insects in soybeans.

Bollworm & Tobacco Budworm

Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2016 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state.



Trap data from 2007-2015 are shown below for reference to other years of trapping data from EREC:

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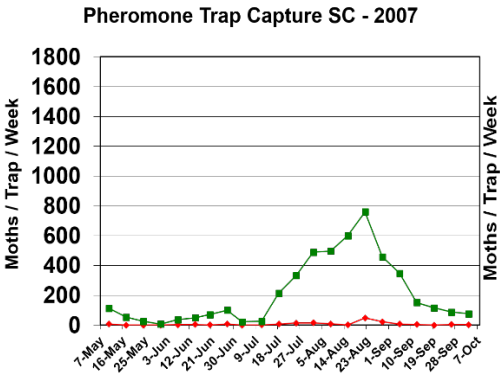

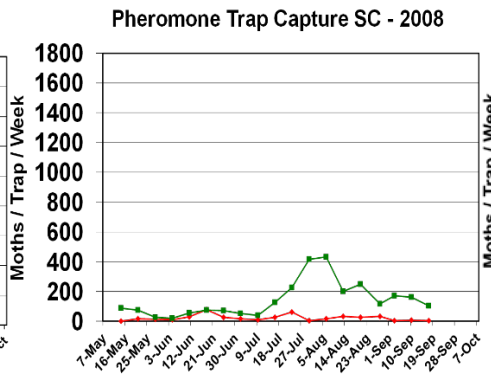

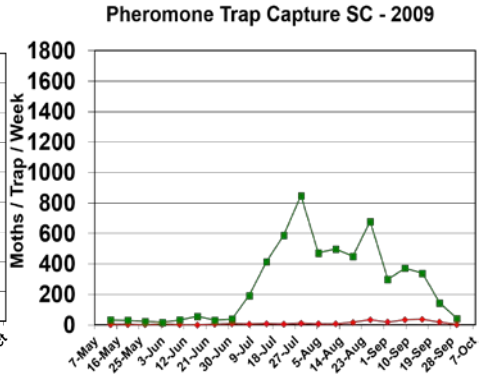

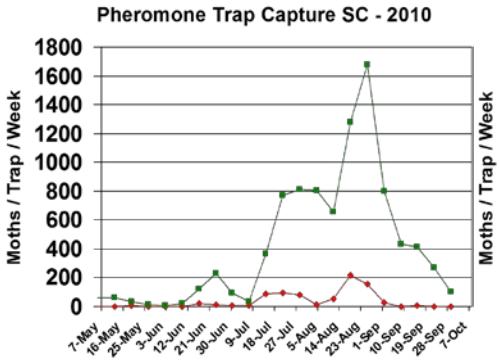

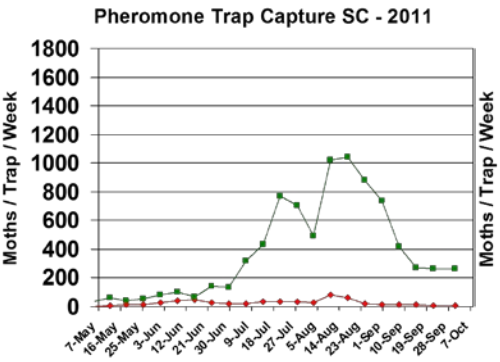

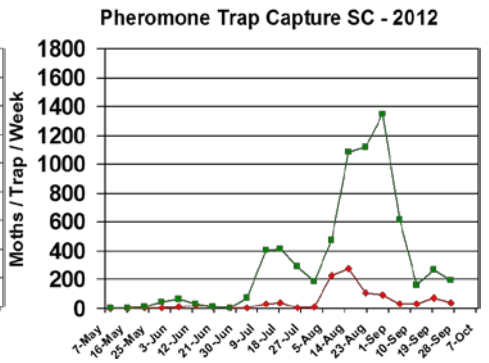

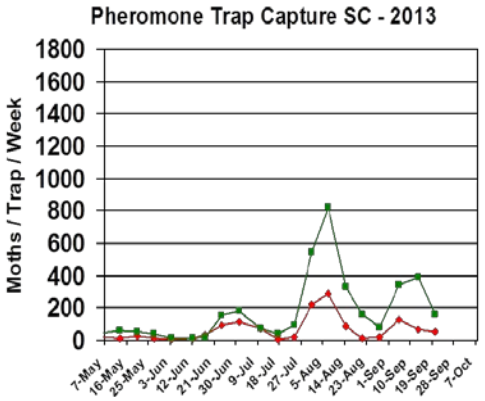

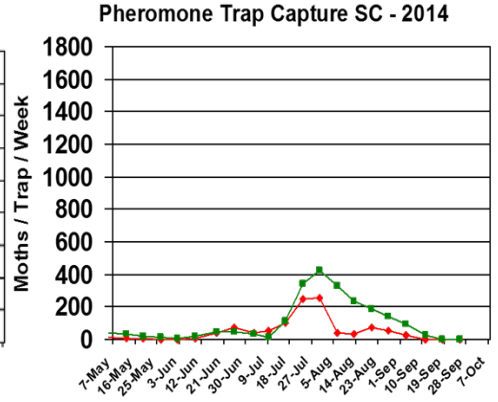

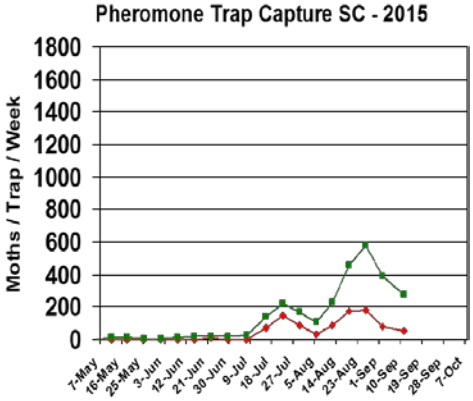

Pest Management Handbook – 2017

Insect control recommendations are available online in the 2017 South Carolina Pest Management Handbook at: http://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html

Free Mobile Apps: "Calibrate My Sprayer" and "Mix My Sprayer"

Download our free mobile apps called "Calibrate My Sprayer" and "Mix My Sprayer" that help check for proper calibration of spraying equipment and help you with mixing user-defined pesticides, respectively, in custom units (available in both iOS and Android formats):
http://www.clemson.edu/extension/mobile-apps/

Need More Information?

For more Clemson University Extension information: http://www.clemson.edu/extension/

For historical cotton/soybean insect newsletters:
http://www.clemson.edu//extension/agronomy/cotton1/newsletters.html

Sincerely,

Jeremy K. Greene, Ph.D.
Professor of Entomology

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